

CLEAN VERSION OF AMENDED SPECIFICATION

IN THE SPECIFICATION:

Please substitute the following paragraphs [0029] and [0031] through [0033] of the specification, for the same numbered paragraphs as filed with the application.

[0029] In Figure 5, the conductive polymer 20 is subjected to a surface volume expansion (swelling) to create overhang regions 60 and a narrowing of narrow space region 40 to a new space 70. The phenomenon of polymer swelling upon exposure to appropriate gases or organic solvents is well known to those skilled in the art. The degree of swelling is a function of the chemical nature of variables such as the gas/solvent used, the temperature and exposure time.

[0031] Figure 6 also shows the anisotropic deposition of a second electrode 81 on the upper regions of the first electrode 25. Moreover, the second electrode material 81 is also deposited in the complementary regions 90 and gap 50 to form the overall second electrode 81. The second electrode 81 is comprised from a conductive material such as aluminum, copper, titanium, titanium nitride, sputtered tungsten, and is deposited by evaporating, sputtering or physical vapor deposition.

[0032] Figure 6 best illustrates the purpose of the novel aspects of this invention, namely incorporating the surface volume expansion to electrode manufacturing. The purpose of the surface volume expansion is to ensure that there is proper spacing between the first electrode 25 and the second electrode 81. Thereby, ensuring that the electrodes are electrically isolated. Because the second electrode 81 is deposited by anisotropic deposition, the second electrode 81 only adheres to the exposed horizontal surfaces of the

substrate. Thus, when the upper regions of the first electrode 25 swell, it prevents the second electrode 81 from being deposited in the space 701, which again, ensures that the electrodes are electrically isolated. Therefore, the electrodes are self-aligned because only one lithographic mask 30 (shown in Figure 2) is used to pattern both the first and second electrode.

[0033] Figure 7 shows a top-down view of a pattern for the first electrode 25, with the cross section view a-a indicated for Figure 5. Figure 8 shows the top-down view after the deposition of the second electrode 81 with electrical connection 100 and 110 indicated. The cross sectional area defined by the line b-b is shown in the cross sectional view of Figure 6. Figure 9 shows a top-down view with a plurality of electrode fingers provided to enlarge the perimeter between the two electrodes, and hence enhance electrical interaction between the two electrodes. Electrical connections 120 and 130 are indicated as well.